



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/782,837	02/23/2004	Yukiko Takeda	HITA.0506	5428
7590 REED SMITH LLP Suite 1400 3110 Fairview Park Drive Falls Church, VA 22042				
			EXAMINER	
			KANE, CORDELLA P	
			ART UNIT	PAPER NUMBER
			2132	
			MAIL DATE	DELIVERY MODE
			05/23/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/782,837

Applicant(s)

TAKEDA ET AL.

Examiner

CORDELIA KANE

Art Unit

2132

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 January 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/SE/US)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed January 31, 2008 have been fully considered but they are not persuasive. Applicants arguments regarding the Aura reference are not persuasive. Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.
2. Applicant's arguments with respect to claims 12 – 15 have been considered but are moot in view of the new grounds of rejection.

Claim Rejections - 35 USC § 102

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. Claims 1, 4 – 8, and 11 are rejected under 35 U.S.C. 102(e) as being anticipated by Aura's US Publication 20050041634 A1. Referring to claim 1, Aura teaches:
 - a. A processor for issuing and guaranteeing public key certification (page 4, paragraph 39).
 - b. A memory for holding information on prefix allocation allow/prohibit information of a terminal device (page 3, paragraph 33).
 - c. A communications interface for receiving a public key issue certification request and rewriting said prefix allocation allow/prohibit information (page 3, paragraph 33).

- d. The processor is structured to rewrite the allow/prohibit information and provide the certificate to the terminal device (page 4, paragraph 39).
- 5. Aura teaches that the access router provides the certificate and the prefix to the terminal device. It is inherent that the router is allowing the prefix allocation.
- 6. Referring to claim 4, Aura teaches:
 - e. Communicating with a server device containing a function to issue and guarantee public key certification and prefix allocation allow prohibit information; a transceiver for acquiring public key certification (page 4, paragraph 39).
 - f. A routine to maintain security by utilizing IPsec technology (page 3, paragraph 39), and storage to store a terminal device location information (page 3, paragraph 35).
 - g. Information confirming the identity of the terminal device is received, and a public key certification is acquired (page 3, paragraph 34).
- 7. Referring to claim 5, Aura teaches:
 - h. An information processing device having a prefix allocation function (page 3, paragraph 35).
 - i. Information confirming the identity of said terminal is received from said terminal device (page 4, paragraph 38).
 - j. Information regarding prefix information is made to said information processing device (page 4, paragraph 39).

- k. A reply to the inquiry indicative that said prefix was allocated is made from the information processing device; then a signal reply confirming the identity of the terminal is sent to the terminal device (page 5, paragraph 49).
- 8. Referring to claim 6, Aura teaches that the security information is compared and if it matches then there is a binding update (page 5, paragraphs 48-49).
- 9. Referring to claim 7, Aura teaches that the prefix information is reported to the terminal device (page 3, paragraph 35).
- 10. Referring to claim 8, Aura teaches:
 - l. A server device that issues a public key certificate and rewrites prefix allocation information (page 3, paragraph 33, page 4, paragraph 39).
 - m. An information processor receives prefix allocation request and makes an inquiry for allow/prohibit information and allocates prefix information to said terminal device (page 3, paragraph 34).
 - n. A terminal control device that receives information confirming the identity of the terminal device and sends prefix information to said information processor device (page 5, paragraph 49).
 - o. The information processing device establishes a security association between the terminal device and the terminal control device (page 3, paragraph 35).
- 11. Referring to claim 11, Aura teaches:
 - p. Said terminal device communicates with the server device holding the public key certification information (page 3, paragraph 31).

- q. Said information processing device sends prefix information to the terminal device (page 3, paragraph 34).

Claim Rejections - 35 USC § 103

12. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aura as applied to claim 1 above, and further in view of Turner et al's US Patent 6,018,524.
13. Aura discloses all the limitations of the parent claim, as well as communicating with a prefix allocation function (page 3, paragraph 33). It is inherent that there is communication with a prefix allocation function since the prefix is allocated. Aura does not explicitly disclose searching the prefix allocation allow/prohibit information. However, Turner discloses searching prefix information (column 5, lines 35-36). Since a prefix is allocated it is inherent that it would be allowed.
14. Aura and Turner are analogous art because they are from the same field of endeavor, routing data. At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Aura and Turner before him or her, to modify prefix allocation of Aura to include the searching of Turner. The motivation for doing so would have been that the scaling issues with prefixes require a more complex lookup (column 2, lines 54-55).

15. Claims 9 and 10 rejected under 35 USC 103 (a) as being obvious over Aura in view of Wada et al's US Patent 5,517,618. Aura discloses all the limitations of the parent claim as well as:

- r. That the terminal control device receives a location registration request from the terminal device, loads the security association (page 5, paragraph 48)
- s. That the terminal control device approves the location registration when the registration request fulfills the security association (page 5, paragraph 49)

16. Aura does not explicitly disclose a communications device between the home and visiting network. However, Wada discloses a gateway between the home and visiting networks (Figure 15, column 27, lines 32-35). Since the prefix allocation request goes from the mobile node to the server, it inherently would go through the gateway.

17. Aura and Wada are analogous art because they are from the same field of endeavor, mobile roaming. At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Aura and Wada before him or her, to modify Aura to include the gateway of Wada.

18. Claims 12 – 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akhtar, and further in view of Saito's US Publication 2002/0046349 A1.

19. Referring to claim 12, Akhtar discloses:

- t. Powering on a terminal (column 43, lines 25-26).
- u. Sending a router advertisement to the terminal from a visited network router (column 52, lines 4-5).

- v. Creating a care of address in the terminal (column 52, lines 16-17).
- w. Sending a device authentication request to the visited network router from the terminal (column 52, lines 5-6).
- x. Sending a public key certification issue request with a public key of the terminal and a terminal ID to a calling authority server over an IP protocol network (column 43, lines 48-54).
- y. Issuing a public key certification issue response from the calling authority server compatible with Ipv6 protocol (column 44, lines 20-24).
- z. Sending a DHCP solicit message from the terminal to a home agent server compatible with Ipv6 protocol (column 58, lines 30-32).
- aa. Responding to the terminal with a DHCP advertise message included in an Ipv6 protocol payload (column 58, lines 44-46).
- bb. Sending a DHCP request to the home agent server from the terminal (column 59, lines 3-4).
- cc. Sending a DHCP reply to the terminal with prefix delegation (column 61, lines 30-38).
- dd. Creating a home address in the terminal (column 61, line 36).
- ee. Sending a home agent address discover request to the home agent server (column 61, lines 52-55).
- ff. Responding with a home agent address discovery reply from the home agent server to the terminal (column 61, lines 30-38).

- gg. Acquiring the home agent server home address in the terminal (column 61, lines 36-38).
 - hh. Establishing an IPsec security association and digital signature via IKE and a secure communication channel between the terminal and a home agent server (column 18, lines 51-53).
 - ii. Making a location binding update in the terminal using the IPsec security association (column 51, lines 16-18).
 - jj. Thereby providing an authentication method for verifying a terminal authenticity by linking a digital signature method with a location binding update method (column 31, lines 18-27).
 - kk. Wherein the IP protocol network contains an authentication server that controls information required for authorizing access to a home network of the terminal device (Figure 29).
20. Akhtar does not explicitly disclose the IP network containing an authentication server that controls information required for authorizing access to a home network. However, Saito discloses a home access server device that is not on the home network (Figure 1) that authenticates the first communication device before providing access to the home network (page 1, paragraph 11). Akhtar and Saito are analogous art because they are from the same field of endeavor, network access. At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Akhtar and Saito before him or her, to modify the system of Akhtar to include the access server of Saito. The suggestion/motivation for doing so would have been to prevent

Art Unit: 2132

attacks from malicious users without implementing excessive security functions in the home gateway (page 1, paragraph 10).

21. Referring to claim 13, Akhtar teaches that the terminal is an IPv6 (column 7, lines 41-44) compatible terminal with a DHCP requesting function (column 13, lines 30-32).

22. Referring to claim 14, Akhtar teaches:

ll. A device authenticating a server is included in the IP network for controlling ID information required to access the home agent router (column 12, lines 48-53).

mm. A communications gateway is included in the IP networking comprising a DHCP-PD requesting router function which handles the DHCP communications to the terminal from the home agent server and the calling authority (column 8, lines 28-35).

nn. Wherein the terminal does not have to have a DHCP function and so that terminals without DHCP functions can be authenticated and their location can be updated according to the method (column 13, lines 47-52).

23. Claim 15 is rejected under 35 USC 103 (a) as being obvious over Akhtar in view of Saito and further in view of Hesham Soliman's "Hierarchical MIPv6 Mobility Management". Akhtar in view of Saito discloses all the limitations of the parent claim as well as that the home agent may send the DHCP request message for the mobile node (Akhtar, column 13, lines 47-52). Akhtar in view of Saito does not explicitly disclose HMIPv6 and MAP bindings. However, Soliman discloses:

- oo. Including HMIPv6 Mobile Anchor Point function in a communication device and HMIPv6 is compatible with the terminal (page 5).
 - pp. The HMIPv6 contains a management table for linking the Regional CoA with the local CoA (page 5).
 - qq. That the HMIPv6 acts as a home agent (page 5). Since the HMIPv6 is acting as a home agent then it would also be sending the DHCP message as taught by Akhtar.
24. Akhtar in view of Saito and Soliman are analogous art because they are from the same field of endeavor, mobile IPv6. At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Akhtar in view of Saito and Soliman before him or her, to modify Akhtar in view of Saito to include HMIPv6 MAP of Soliman. The motivation for doing so would have been to reduce the amount of signaling to CN's and the HA and improve the performance of MIPv6 in terms of handoff speed (page 1, Abstract).
25. Claim 16 is rejected under 35 USC 103 (a) as being obvious over Akhtar in view of Aura. Akhtar discloses :
- rr. Powering on a terminal (column 43, lines 25-26).
 - ss. Sending a router advertisement to the terminal from a visited network router (column 52, lines 4-5).
 - tt. Creating a care of address in the terminal (column 52, lines 16-17).

- uu. Sending a device authentication request to the visited network router column 52, lines 5-6).
 - vv. Sending a public key certification request with a public key and a terminal ID to a calling authority (column 43, lines 48-54).
 - ww. Issuing a public key certification issue response from the calling authority compatible with Ipv6 (column 44, lines 20-24).
 - xx. Establishing an IPsec security association and digital signature via IKE and a secure communication channel using phase I and phase II IPsec ISAKMP protocols between the terminal and the home agent server (column 18, lines 51-53).
 - yy. Making a location binding update in the terminal using the IPsec security association (column 51, lines 16-18).
 - zz. Thereby providing an authentication method for verifying a terminal authenticity by linking a digital signature method with a location binding update method (column 31, lines 18-27).
26. Akhtar does not explicitly disclose sending a request to verify the public key, then allocating the prefix, and making a location binding update. However, Aura discloses:
- aaa. Sending a request to check the public key certification to the calling authority (page 4, paragraph 39).
 - bbb. Responding from the calling authority server whether prefix allocation is allowed with a prefix and creating a home address in the terminal (page 3, paragraph 33-34).

Art Unit: 2132

ccc. Making a location binding update by the terminal using a binding cache from the home agent server (page 3, paragraph 35).

27. Akhtar and Aura are analogous art because they are from the same field of endeavor, roaming of mobile nodes. At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Akhtar and Aura before him or her, to modify Akhtar to include verifying the public key, allocating a prefix, and binding the location of Aura. The motivation for doing so would have been to make the location of the node verified (Aura, page 4, paragraph 45).

Conclusion

28. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CORDELIA KANE whose telephone number is (571)272-7771. The examiner can normally be reached on Monday - Thursday 8:00 - 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gilberto Barron can be reached on 571-272-3799. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2132

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/C. K./

Examiner, Art Unit 2132

/Gilberto Barron Jr/

Supervisory Patent Examiner, Art Unit 2132